In the Claims:

Please cancel claims 13-18, 42, 43, and 46-48.

Please amend claims 1, 5, 6, 7, 8, 11, 12, 37, 40, and 45 as indicated.

A1

1. (Amended) A computer program product for populating a database with manipulated biological information, said computer program product comprising:

code for providing a plurality of cells in various stages of the cell cycle, said stages of the cell cycle including at least one selected from interphase, G0 phase, G1 phase, S phase, G2 phase, M phase, prophase, prometaphase, metaphase, anaphase, and telophase;

code for applying a manipulation to[manipulating] said cells in said various stages of cell cycle development to form a plurality of manipulated cells, wherein said manipulation is selected from the group consisting of an electromagnetic factor, a gravitational factor, a mechanical factor, a thermal factor, a nuclear radiation factor, and combinations thereof;

code for capturing an image of said plurality of manipulated cells;

code for determining a descriptor from said image for said manipulated cells;

code for populating a database with said descriptor;

wherein said image includes a first component of a cell and a second component of said cells; and

a computer readable storage medium for holding the codes.

A2

5. (Amended) The computer program product of claim 1 wherein said descriptor[s] comprises a plurality of numeric or logical values.

6. (Amended) The computer program product of claim 5 wherein said plurality of numeric or logical values further comprise[s a] one letter designations for nucleotides.

7. (Amended) The computer program product of claim 5 wherein said plurality of numeric or logical values further comprise[s] one letter designations for[an] amino acids[letter].

8. (Amended) A computer program product for determining a property of a manipulation based upon effects of said manipulation on at least two of a plurality of components of at least one of a plurality of cells, said computer program product comprising:

code for providing at least one of a plurality of samples of said manipulation to said at least one of a plurality of cells, wherein said manipulation is selected from the group consisting of applying an electromagnetic factor, applying a gravitational factor, applying a mechanical factor, applying a thermal factor, applying a nuclear radiation factor, and combinations thereof;

code for determining at least one of a plurality of features of said at least two of a plurality of components of at least one of a plurality of cells in the presence of said manipulation;

code for determining at least one of a plurality of descriptors, said descriptors comprising at least one of said plurality of features;

A2 cancel

code for searching a plurality of descriptors obtained from a database to locate descriptors based upon one of said descriptors of said manipulation, said searching forming a plurality of located descriptors;

code for determining, based upon said located descriptors, properties of said manipulation based upon said located descriptors;

wherein said two of a plurality of components includes a first component and a second component of a cell, said code for determining at least one of a plurality of descriptors of a state comprises code for combining information about said first component and said second component; and

a computer readable storage medium for holding the codes.

A3

11. (Amended) The computer program product of claim 8 wherein said code for providing a manipulation further comprises code for applying a chemical factor.

12. (Amended) The computer program product of claim 8 wherein said code for providing a manipulation further comprises code for applying a biological factor.

A4

37. (Amended) The computer program product of claim 8 wherein said properties can be selected from clinical uses and indications, human and veterinary diagnostic uses and tests, or human and veterinary prognostic uses and tests.[.]

A5

40. (Amended) A computer program product [of]for mapping a plurality [manipulation] of cells after applying a manipulation to said plurality of cells, based upon a morphological value, said computer program product comprising:

code for capturing [a]the morphological value from said plurality of manipulated cells[said cells being manipulated], wherein said manipulation is selected from the group consisting of applying an electromagnetic factor, applying a gravitational factor, applying a mechanical factor, applying a thermal factor, applying a nuclear radiation factor, and combinations thereof;

code for assigning a degree of presence of said morphological value; and

code for storing said morphological value and said degree of presence;

wherein said morphological value is derived from a first component of a cell and second component of said cell, said code for capturing said [morphometric]morphological value from said plurality of cells comprises code for determining a relationship between said first component and said second component; and

a computer readable storage medium for holding the codes.

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45. (Amended) The computer program product of claim 40 wherein said degree of presence is a multiple of a quantized value.

Please add the following new claims:

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49. (New) A computer program product for determining a property of a manipulation based upon effects of said manipulation on at least two of a plurality of components of at least one of a plurality of cells, said computer program product comprising:

code for providing at least one of a plurality of samples of said manipulation to said at least one of a plurality of cells, wherein said manipulation is selected from the group consisting of applying a hormone, applying a growth factor, applying an extracelluar matrix component, applying a virus, applying an electroporation, applying an antisense polynucleotide, applying a gene knock-out, applying a gene overexpression, applying a gene mutation, applying a cell fusion, and combinations thereof;

code for determining at least one of a plurality of features of said at least two of a plurality of components of at least one of a plurality of cells in the presence of said manipulation;

code for determining at least one of a plurality of descriptors, said descriptors comprising at least one of said plurality of features;

code for searching a plurality of descriptors obtained from a database to locate descriptors based upon one of said descriptors of said manipulation, said searching forming a plurality of located descriptors;

code for determining, based upon said located descriptors, properties of said manipulation based upon said located descriptors;

wherein said two of a plurality of components includes a first component and a second component of a cell, said code for determining at least one of a plurality of descriptors of a state comprises code for combining information about said first component and said second component; and

a computer readable storage medium for holding the codes.

50. (New) The computer program product of claim 49 wherein said plurality of components are selected from a protein, a protein modification , a nucleic acid, a lipid, a carbohydrate, a sub-cellular structure, and an organelle.

51. (New) The computer program product of claim 49 wherein said code for providing a manipulation further comprises code for applying a chemical factor.

52. (New) The computer program product of claim 49 wherein said properties comprises toxicity.

53. (New) The computer program product of claim 49 wherein said properties comprises a mechanism of action.

54. (New) The computer program product of claim 49 wherein said properties comprises at least one of a plurality of pharmacological properties.

55. (New) The computer program product of claim 54 wherein said pharmacological properties comprises at least one of absorption, excretion, distribution, and metabolism.